

We Claim:

Sub A 1. A hemofiltration system comprising an extracorporeal circuit for circulating blood from an individual through a hemofilter to remove waste and to return blood and replacement fluid to the individual after removal of waste, the extracorporeal circuit including a waste discharge path to convey waste fluid to a waste receiving unit, the waste discharge path including an air break to prevent back flow of waste contaminants into the extracorporeal circuit from the waste receiving unit.

2. A system according to claim 1 wherein the waste receiving unit comprises a waste bag.

3. A system according to claim 2 wherein the waste bag is integrally connected to the waste discharge path.

4. A system according to claim 2 wherein the waste discharge path includes a connector to couple a waste bag to the extracorporeal circuit.

5. A system according to claim 1 wherein the waste receiving unit comprises a drain.

Sub B 6. A hemofiltration system comprising an extracorporeal circuit for circulating blood from an individual through a hemofilter to remove waste and to return blood and replacement fluid to the individual after removal of waste, the extracorporeal circuit including a replacement fluid path to convey replacement fluid from a source to the extracorporeal circuit, the replacement fluid path including a sterilizing filter to avoid contamination of the extracorporeal circuit.

7. A system according to claim 6 wherein the source comprises at least one

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container holding replacement fluid.

8. A system according to claim 6
wherein the sterilizing filter is integrally
connected to the replacement fluid path.

9. A system according to claim 6
wherein the replacement fluid path terminates in
multiple fluid branches, each fluid branch including a
connector to couple a source container of replacement
5 fluid to the replacement fluid path.

10. A system according to claim 6
wherein the replacement fluid path includes a
separate replacement fluid set comprising multiple
branches, each branch including a connector to couple a
5 source container of replacement fluid to the set, and
wherein the replacement fluid path includes a set
connector to releasably join the replacement fluid set to
the replacement fluid path.

11. A system according to claim 10
wherein the sterilizing filter is in the separate
replacement set.

12. A system according to claim 10
wherein the sterilizing filter is in the
replacement fluid path upstream of the set connector.

13. A hemofiltration system comprising
a hemofiltration machine including a chassis and
at least one flow controlling element on the chassis,

an extracorporeal circuit for circulating blood
5 from an individual through a hemofilter to remove waste
and to return blood to the individual after removal of
waste, a portion of the extracorporeal circuit being
integrated, at least in part, within a flexible panel
free of an air-fluid interface,

10 a fluid processing cartridge orienting the
flexible panel for mounting as an integrated unit on the
chassis with the flexible panel in operating engagement

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Sub 27

15 a controller for the hemofiltration machine
operable in a hemofiltration mode to operate the flow
controlling element, when the fluid processing cartridge
is mounted on the chassis, to convey an individual's
blood through the extracorporeal fluid circuit to a
20 hemofilter to remove waste fluid and to supply
replacement fluid, the controller also operable in a
dwell mode to suspend the hemofiltration mode and retain
the fluid processing cartridge on the chassis between
multiple intermittent hemofiltration sessions during a
25 prescribed time period.

wherein the extracorporeal circuit includes a waste discharge path to convey waste fluid to a waste receiving unit, the waste discharge path including an air break to prevent back flow of waste contaminants into the extracorporeal circuit from the waste receiving unit.

Sub C47
replace
a source

wherein, during the dwell mode, the controller operates the flow controlling element to introduce a bacteriostatic agent into the extrasorporeal circuit.

wherein, during the dwell mode, the controller subjects the extracorporeal circuit to refrigeration.

wherein the controller registers duration of use of the extracorporeal circuit and prevents operation of

the hemofiltration machine when the registered duration
of use exceeds a predetermined period.

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19. A system according to claim 13

wherein the controller registers use of the
extracorporeal circuit and prevents operation of the
hemofiltration machine when the registered use fails to
correlate with predetermined criteria.

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^{sub}₁₃₁ 20. A system according to claim 13

wherein, during the hemofiltration mode, the
controller operates the flow controlling element to
convey blood through the hemofilter at a blood flow rate
of at least 300 ml/min.

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21. A method for carrying out hemofiltration
comprising the steps of

(i) operating a hemofiltration machine to convey
an individual's blood through an extracorporeal fluid
circuit to a hemofilter to remove waste fluid,

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(ii) discharging waste fluid to a waste receiving
unit through a waste discharge path that forms a part of
the extracorporeal circuit, and

(iii) preventing back flow of waste contaminants
into the extracorporeal circuit from the waste receiving
unit by locating an air break in the waste discharge
path.

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22. A method according to claim 21

wherein steps (i), (ii), and (iii) are conducted
during multiple intermittent sessions during a prescribed
time period.

23. A method according to claim 22

further including the step of introducing a
bacteriostatic agent into the extracorporeal circuit
between the multiple intermittent sessions.

24. A method according to claim 22

further including the step of subjecting the
extracorporeal circuit to refrigeration between the

multiple intermittent sessions.

25. A method according to claim 22 wherein the prescribed time period is between about 48 hours and about 120 hours.

26. A method according to claim 22 wherein the prescribed time period is between about 72 hours and about 80 hours.

27. A method according to claim 21 further including the step of (iv) performing steps (i) to (iii) at least four times weekly.

28. A method according to claim 21 wherein, in step (i), blood is conveyed through the hemofilter at a blood flow rate of at least 300 ml/min.

Sub 29. A method for carrying out hemofiltration comprising the steps of

(i) operating a hemofiltration machine to convey an individual's blood through an extracorporeal fluid circuit to a hemofilter to remove waste fluid,

(ii) introducing replacement fluid through a replacement fluid path that forms a part of the extracorporeal circuit,

(iii) preventing contamination of the extracorporeal circuit by locating a sterilizing filter in the replacement fluid path.

30. A method according to claim 29 wherein steps (i), (ii), and (iii) are conducted during multiple intermittent sessions during a prescribed time period.

31. A method according to claim 30 further including the step of introducing a bacteriostatic agent into the extracorporeal circuit between the multiple intermittent sessions.

32. A method according to claim 30 further including the step of subjecting the

36. A method according to claim 29
wherein, in step (i), blood is conveyed through
the hemofilter at a blood flow rate of at least 300
ml/min.

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